

Claim 21 has been amended as to form only.

No claims are canceled or added.

As a result, claims 1-23 and 31-59 are pending in this application.

Amendments to the Specification

Applicants have made several amendments to the specification by substituting "embodiments of the invention", "subject matter", or "disclosure" for "invention". This is because Applicants do not wish the claims to be interpreted as being limited to a single "invention". No new matter has been added by way of these amendments to the specification.

Rejections Under 35 U.S.C. §102(e)

Claims 1-3, 8-10, 13-14, 17-23, 45, 50, and 55-56 were rejected under 35 U.S.C. §102(e) as being anticipated by Daves et al. (U.S. Patent No. 6,091,603). Applicants do not admit that Daves is prior art and reserve the right to swear behind Daves as provided for under 37 C.F.R. §1.131.

Daves discloses an integrated circuit package (FIG. 2) having a chip 600, a thermally conductive compliant material 200, a heat spreader 104, an understructure 103, and a lid 101. Daves discloses that the thermally conductive compliant material 200 is preferably a thermally conductive paste, grease, or compliant material such as those described in U.S. Pat. Nos. 5,094,769; 5,098,609; or 5,167,851 (refer to col. 5, lines 37-42).

Daves fails to disclose each of the structural elements recited in claim 1. For example, Daves fails to disclose "an adhesion layer formed on the back surface" of the die. The term "adhesion layer" is described in Applicants' written description (e.g. on page 7, beginning line 20) as a metal that adheres well to silicon, silicon oxide, or silicon nitride, such as titanium (Ti), chromium (Cr), vanadium (V), or zirconium (Zr).

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Daves fails to disclose an adhesion layer as defined within Applicants' written description, because the element that the Examiner is equating to Applicants' adhesion layer is thermally conductive compliant material 200, and that element is apparently not described as a metal within Daves, insofar as Daves is understood.

For the above reasons, claim 1 should be found to be allowable over Daves, and Applicants respectfully request that the rejection of claim 1 under 35 U.S.C.'102(e) as anticipated by Daves be withdrawn.

Claims 2-7, which depend from claim 1 and incorporate all of the limitations therein, are also asserted to be allowable for the reasons presented above.

Independent claims 8, 17, and 21 each contain the limitation of an adhesion layer, so these claims, as well as all claims that depend directly or indirectly from them, should also be found to be allowable, for the reasons presented with regard to independent claim 1.

Applicants consider additional elements and limitations of claims 1-3, 8-10, 13-14, 17-23, 45, 50, and 55-56 to further distinguish over Daves, and Applicants reserve the right to present arguments to this effect at a later date.

Rejections Under 35 U.S.C. §103(a)

Claims 4-5 and 11-12 were rejected under 35 U.S.C. §103(a) as being unpatentable over Daves et al. (U.S. Patent No. 6,091,603) in view of Patel (U.S. Patent No. 5,396,403).

Applicants respectfully assert that independent claims 1 and 8 distinguish over Daves for the reasons presented earlier. Thus, all of the claims dependent from claims 1 and 8 are likewise asserted to distinguish over Daves. Applicants respectfully request that the rejection of claims 4-5 and 11-12 under 35 U.S.C.'103(a) as unpatentable over Daves be withdrawn.

Claims 6-7, 15-16, 31-44, 46-49, 51-54, and 57-59 were rejected under 35 U.S.C. §103(a) as being unpatentable over Daves et al. (U.S. Patent No. 6,091,603).

Applicants respectfully assert that independent claims 1, 8, 17, and 21 distinguish over Daves for the reasons presented earlier. Thus, all of the claims dependent from claims 1, 8, 17, and 21 are likewise asserted to distinguish over Daves. Applicants respectfully request that the

rejection of claims 6-7, 15-16, 31-44, 46-49, 51-54, and 57-59 under 35 U.S.C. 103(a) as unpatentable over Daves be withdrawn.

Applicants consider additional elements and limitations of claims 4-5, 6-7, 11-12, 15-16, 31-44, 46-49, 51-54, and 57-59 to further distinguish patentably over Daves, and Applicants reserve the right to present arguments to this effect at a later date.

Conclusion

Applicants respectfully submit that claims 1-23 and 31-59 are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicants' attorney Walter W. Nielsen at 602/298-8920 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

BISWAJIT SUR ET AL.

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I hereby certify that this paper is being transmitted to the U. S. Patent & Trademark Office on the date shown below

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